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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,660	11/14/2003	Frank G. Belmonte	37,481	9847

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EXAMINER
OH, TAYLOR V

ART UNIT	PAPER NUMBER
1625	

MAIL DATE	DELIVERY MODE
07/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/713,660	BELMONTE ET AL.	
	Examiner	Art Unit	
	Taylor Victor Oh	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) *29-30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Final Rejection

The Status of Claims

Claims 1-30 are pending.

Claims 1-28 have been rejected.

Claims 29-30 have been withdrawn .

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The rejection of Claim 1 under 35 U.S.C. 112, second paragraph, has been withdrawn due to the modification made in the claim.

Claim Rejections - 35 USC § 103

Applicants' argument filed 2/05/07 have been fully considered but they are not persuasive.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The rejection of Claims 1-28 under 35 U.S.C. 103(a) as being unpatentable over Housley et al (US 2001/0007910) in view of Baldwin et al (US 3,092,658).

The rejection of Claims 1-28 under 35 U.S.C. 103(a) as being unpatentable over Housley et al (US 2001/0007910) in view of Baldwin et al (US 3,092,658) has been maintained with reasons of record on 3/02/07.

Applicants' Argument

I. Applicants argue the following issues:

a. Housley et al teach employing a higher pressure in the first reaction zone; however, the claimed process operates at a much lower pressure in the first oxidation stage (130 to 215 psig) and transfer the first oxidation mixture to the higher pressure (about 170 to 235 psig) second oxidation stage.

b. Housley et al do not teach recycling unreacted oxygen from the second oxidation stage to the first oxidation stage to obtain high oxygen utilization.

c. None of the prior art disclose at least a portion of the condensed solvent from the first oxidation into the second oxidation stage .

d. Baldswin et al do not teach a portion or all of the total amount of the feed mixture is introduced into the second oxidation stage; however, the claimed invention does show that low terephthalic acid color is obtained as a result of the process in comparison with comparative Example A (Baldswin et al).

The applicants' argument have been noted, but these arguments are not persuasive.

First, with respect to the first argument, the Examiner has noted applicants' argument. However, the secondary Baldwin et al reference does teach the lower pressure in the first oxidation stage (130 to 215 psig) and transfer the first oxidation mixture to the higher pressure (about 170 to 235 psig) second oxidation stage as disclosed below :

> In a staged three vessel countercurrent oxidation system the first stage should be operated at 50–300, e.g. 175 p.s.i., 320–420, e.g. 375° F., with a 1:1 to 5:1 acetic acid to hydrocarbon ratio and for a time of about .1 to 1 hour, e.g. 30 minutes. The second stage should be at a higher pressure than the first, i.e. 100–400 or about 300 p.s.i., at approximately the same temperature, e.g. 340–420 or about 380° F., with about the same solvent ratio and contact time as the first stage but preferably with a somewhat higher oxygen concentration. The last stage should be at the highest pressure, e.g. 200–500 or about 400 p.s.i., the highest temperature, e.g. 360–440 or about 400° F., and at the highest oxygen concentration, preferably air at the inlet side but in amounts to avoid exceeding 8 percent oxygen in the off-gas therefrom. (see col. 2 ,lines 30-45).

Furthermore, applicants did not claim anywhere those particular limitations in the claim section. The claims particularly point out the subject matter that applicant regards as the

invention . A claim referring to the specification is improper . Ex parte Fressola, 27 USPQ 2d 1608 (US Pat. & Trade maek Bd. Pat. App. & Int 1993). Therefore, applicants' argument is not persuasive.

Second, with respect to the second argument, the Examiner has noted applicants' argument. However, on the contrary to applicants' argument, Housley et al expressly teaches the followings (see page 3 , lines 2-12):

> a mixture comprising (i) recycled solvent, recycled mother liquor and catalyst, line **11**, (ii) reactor condensate from the second reactor, line **12**, and (iii) fresh acetic acid make-up, line **13**. The mixed feed stream will contain typical catalyst components (e.g., Co, Mn, Br), at generally diluted concentrations from what would normally be present when using a single conventional oxidation reactor. Optionally, but not shown, control of catalyst concentration in the first reaction zone can be achieved by bypassing some of the catalyst-containing mother liquor, line **11**, directly to second reactor **20**.

From this paragraph, it becomes clear that unreacted oxygen from the second oxidation stage is recycled to the first oxidation stage in view of "recycled mother liquor (which contains oxygen)." Therefore, applicants' argument is not persuasive.

Third, with respect to the third and fourth arguments, the Examiner has noted applicants' argument. However, on the contrary to applicants' argument, the primary Housley et al prior art expressly teaches the followings (see page 3 , paragraph #0033):

> Optionally, but not shown, a portion of paraxylene feed **16** may bypass reactor **15** and be fed directly to second reactor **20**. The reaction medium which results in the first reactor has an acetic acid:paraxylene ratio in the range of from 10-25:1. Best results have been observed when the acetic acid:paraxylene mass ratio is from 10-20:1.

Thus, it seems reasonable to assume that the primary Housley et al prior art does show the same way in which the claimed invention reveals that low terephthalic acid color is obtained as a result of the process. Therefore, applicants' argument is not persuasive.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 571-272-0689. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on 571-272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Taylor Victor Oh , MS.D,LAC
Primary Examiner
Art Unit : 1625

7/22/07

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